

## **IN THE CLAIMS:**

Claims 1-23 (canceled).

Claim 24 (currently amended): A light coupling element having a surface (3) of a material which is transparent to light of a selected wavelength  $[(\lambda)]$   $\lambda$ , for producing an evanescent electromagnetic field at the surface (3), the element comprising: a first set of equidistantly parallel indentations (5<sub>1</sub>) on at least one region of the surface (3); and a further set of equidistantly parallel indentations (5<sub>2</sub>) on the surface (3) which intersect ( $\varphi$ ) the first set of indentations (5<sub>1</sub>), wherein all said indentations (5<sub>1</sub>, 5<sub>2</sub>) are linear and wherein the distances (d<sub>0</sub>) of successive equidistantly parallel indentations (5<sub>1</sub>, 5<sub>2</sub>) are equal and relative to the selected wavelength  $\lambda$  in air are selected as follows:

$$0.1 \lambda \leq d_0 \leq 10 \lambda$$

and wherein the surface (3) is the surface of a layer system (1a) with at least one layer which is applied onto a support (15), wherein the material of the support (15) has a refractive index for the light of the selected wavelength  $\lambda$  which is lower than the refractive index of a layer material of the layer system.

Claim 25 (currently amended): A light coupling element as claimed in claim 24 ~~with a surface (3) of a material which is transparent to light of a selected wavelength ( $\lambda$ ), the element comprising:~~ further including a first set of equidistantly parallel elevations (7<sub>1</sub>) on at least one region of the surface (3); and a further set of equidistantly parallel elevations (7<sub>2</sub>) on the surface (3) which intersect ( $\varphi$ ) the first set of elevations (7<sub>1</sub>).

Claim 26 (currently amended): A light coupling element as claimed in claim 25, including ~~[[a]]~~ the first set of equidistantly parallel indentations ( $5_1$ ) on the at least one region of the surface (3) and ~~[[a]]~~ the further set of equidistantly parallel indentations ( $5_2$ ) on the surface (3) which intersect ( $\varphi$ ) the first set of indentations ( $5_1$ ), the indentations being between the elevations on the surface and having three depth levels ( $d_{T1}$ ,  $d_{T2}$ ,  $d_{T1} + d_{T2}$ ).

Claim 27 (currently amended): A light coupling element as claimed in claim 25, including the indentations ( $5_1, 5_2$ ) disposed between the elevations ( $7_1, 7_2$ ) and being substantially of equal depth.

Claim 28 (canceled).

Claim 29 (previously presented): A light coupling element as claimed in claim 25, wherein the elevations ( $7_1, 7_2$ ) are linear.

Claim 30 (currently amended): A light coupling element as claimed in claim 24, wherein the first and further sets of indentations ( $5_1, 5_2$ ) ~~are linear and~~ intersect at right angles ~~and the distances ( $d_0$ ) of successive equidistantly parallel indentations ( $5_1, 5_2$ ) are equal.~~

Claim 31 (currently amended): A light coupling element as claimed in claim 25, wherein the first ~~[[abd]]~~ and further sets of elevations ( $7_1, 7_2$ ) are linear and intersect at right angles and the distances ( $d_0$ ) of successive equidistantly parallel elevations ( $7_1, 7_2$ ) are equal.

Claim 32 (previously presented): A light coupling element as claimed in claim 24, wherein distances ( $d_0$ ) of successive equidistantly parallel indentations ( $5_1, 5_2$ ) are selected as follows:

$$200 \text{ nm} \leq d_0 \leq 20000 \text{ nm}.$$

Claim 33 (previously presented): A light coupling element as claimed in claim 24, wherein distances ( $d_0$ ) of successive equidistantly parallel indentations ( $5_1, 5_2$ ) are selected as follows:

$$40 \text{ nm} \leq d_0 \leq 4000 \text{ nm}.$$

Claim 34 (previously presented): A light coupling element as claimed in claim 24, wherein distances ( $d_0$ ) of successive equidistantly parallel indentations ( $5_1, 5_2$ ) are selected as follows:

$$100 \text{ nm} \leq d_0 \leq 1200 \text{ nm}.$$

Claim 35 (previously presented): A light coupling element as claimed in claim 25, wherein distances ( $d_0$ ) of successive equidistantly parallel elevations ( $7_1, 7_2$ ) are selected as follows:

$$200 \text{ nm} \leq d_0 \leq 20000 \text{ nm}.$$

Claim 36 (previously presented): A light coupling element as claimed in claim 25, wherein distances ( $d_0$ ) of successive equidistantly parallel elevations ( $7_1, 7_2$ ) are selected as follows:

$$40 \text{ nm} \leq d_0 \leq 4000 \text{ nm}.$$

Claim 37 (previously presented): A light coupling element as claimed in claim 25, wherein distances ( $d_0$ ) of successive equidistantly parallel elevations ( $7_1, 7_2$ ) are selected as follows:

$$100 \text{ nm} \leq d_0 \leq 1200 \text{ nm}.$$

Claim 38 (canceled).

Claim 39 (previously presented): A light coupling element as claimed in claim 24, wherein the distances ( $d_0$ ) of successive equidistantly parallel indentations ( $5_1, 5_2$ ) relative to the selected wavelength  $\lambda$  in air are selected as follows:

$$0.2 \lambda \leq d_0 \leq 2 \lambda.$$

Claim 40 (previously presented): A light coupling element as claimed in claim 24, wherein the distances ( $d_0$ ) of successive equidistantly parallel indentations ( $5_1, 5_2$ ) relative to the selected wavelength  $\lambda$  in air are selected as follows:

$$0.5 \lambda \leq d_0 \leq 0.6 \lambda.$$

Claim 41 (previously presented): A light coupling element as claimed in claim 25, wherein the distances ( $d_0$ ) of successive equidistantly parallel ( $7_1, 7_2$ ) relative to the selected wavelength  $\lambda$  in air are selected as follows:

$$0.1 \lambda \leq d_0 \leq 10 \lambda.$$

Claim 42 (previously presented): A light coupling element as claimed in claim 25, wherein the distances ( $d_0$ ) of successive equidistantly parallel ( $7_1, 7_2$ ) relative to the

selected wavelength  $\lambda$  in air are selected as follows:

$$0.2 \lambda \leq d_0 \leq 2 \lambda.$$

Claim 43 (previously presented): A light coupling element as claimed in claim 25, wherein the distances ( $d_0$ ) of successive equidistantly parallel ( $7_1, 7_2$ ) relative to the selected wavelength  $\lambda$  in air are selected as follows:

$$0.5 \lambda \leq d_0 \leq 0.6 \lambda.$$

Claim 44 (previously presented): A light coupling element as claimed in claim 24, wherein the depth  $d_T$  of the indentations is 0.2 nm to 20000 nm.

Claim 45 (previously presented): A light coupling element as claimed in claim 24, wherein the depth  $d_T$  of the indentations is 10 nm to 400 nm.

Claim 46 (previously presented): A light coupling element as claimed in claim 24, wherein the depth  $d_T$  of the indentations relative to the selected wavelength  $\lambda$  in air is selected as follows:

$$0.001 \lambda \leq d_T \leq 10 \lambda.$$

Claim 47 (previously presented): A light coupling element as claimed in claim 24, wherein the depth  $d_T$  of the indentations relative to the selected wavelength  $\lambda$  in air is selected as follows:

$$0.01 \lambda \leq d_T \leq \lambda.$$

Claim 48 (previously presented): A light coupling element as claimed in claim 24, wherein the depth  $d_T$  of the indentations relative to the selected wavelength  $\lambda$  in air is selected as follows:

$$0.05 \lambda \leq d_T \leq 0.2 \lambda.$$

Claim 49 (currently amended): A light coupling element as claimed in [[one of]] claim 24, wherein a duty cycle, defined as the ratio of elevation width to the distance of successive indentations, is selected to be 0.2 to 0.8.

Claim 50 (currently amended): A light coupling element as claimed in [[one of]] claim 24, wherein a duty cycle, defined as the ratio of elevation width to the distance of successive indentations, is selected to be 0.4 to 0.6.

Claim 51 (previously presented): A light coupling element as claimed in claim 25, wherein a duty cycle, defined as the ratio of elevation width to the distance of successive elevations, is selected to be 0.2 to 0.8.

Claim 52 (previously presented): A light coupling element as claimed in claim 25, wherein a duty cycle, defined as the ratio of elevation width to the distance of successive elevations, is selected to be 0.4 to 0.6.

Claim 53 (canceled).

Claim 54 (previously presented): A light coupling element as claimed in claim 51,

wherein the surface of the support (15) in the region has the same indentation structure as the surface of the layer system (1a) and that, in top view, the structures are aligned one on another.

Claim 55 (canceled).

Claim 56 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system has at least one layer of a high-refractive material.

Claim 57 (previously presented): A light coupling element as claimed in claim 54, wherein the high-refractive material is at least one of the following materials:  $\text{Ta}_2\text{O}_5$ ,  $\text{TaO}_2$ ,  $\text{NbO}_5$ ,  $\text{ZrO}_2$ ,  $\text{ZnO}$ ,  $\text{HfO}_2$ .

Claim 58 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system has a thickness  $d_s$  of 2 nm to 20000 nm.

Claim 59 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system has a thickness  $d_s$  of 20 nm to 4000 nm.

Claim 60 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system has a thickness  $d_s$  of 40 nm to 600 nm.

Claim 61 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system has a thickness  $d_s$  of 150 nm.

Claim 62 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system, relative to the selected wavelength  $\lambda$  in air, has a thickness  $d_s$  for which, relative to the selected wavelength  $\lambda$ , in air applies:

$$0.01 \lambda \leq d_s \leq 10 \lambda.$$

Claim 63 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system, relative to the selected wavelength  $\lambda$  in air, has a thickness  $d_s$  for which, relative to the selected wavelength  $\lambda$ , in air applies:

$$0.01 \lambda \leq d_s \leq 2 \lambda.$$

Claim 64 (previously presented): A light coupling element as claimed in claim 51, wherein the layer system, relative to the selected wavelength  $\lambda$  in air, has a thickness  $d_s$  for which, relative to the selected wavelength  $\lambda$ , in air applies:

$$0.2 \lambda \leq d_s \leq 0.3 \lambda.$$

Claim 65 (canceled).

Claim 66 (previously presented): A light coupling element as claimed in claim 63, wherein the surface of the support (15) in the region has the same elevation structure as the surface of the layer system (1a) and that, in top view, the structures are aligned one on another.

Claim 67 (canceled).



Claim 68 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system has at least one layer of a high-refractive material, preferably of at least one of the following materials:  $\text{Ta}_2\text{O}_5$ ,  $\text{TaO}_2$ ,  $\text{NbO}_5$ ,  $\text{ZrO}_2$ ,  $\text{ZnO}$ ,  $\text{HfO}_2$ .

Claim 69 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system has a thickness  $d_s$  of 2 nm to 20000 nm.

Claim 70 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system has a thickness  $d_s$  of 20 nm to 4000 nm.

Claim 71 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system has a thickness  $d_s$  of 40 nm to 600 nm.

Claim 72 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system has a thickness  $d_s$  of 150 nm.

Claim 73 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system, relative to the selected wavelength  $\lambda$  in air, has a thickness  $d_s$  for which, relative to the selected wavelength  $\lambda$ , in air applies:

$$0.01 \lambda \leq d_s \leq 10 \lambda.$$

Claim 74 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system, relative to the selected wavelength  $\lambda$  in air, has a thickness  $d_s$  for which, relative to the selected wavelength  $\lambda$ , in air applies:

$$0.01 \lambda \leq d_s \leq 2 \lambda.$$

Claim 75 (previously presented): A light coupling element as claimed in claim 63, wherein the layer system, relative to the selected wavelength  $\lambda$  in air, has a thickness  $d_s$  for which, relative to the selected wavelength  $\lambda$ , in air applies:

$$0.2 \lambda \leq d_s \leq 0.3 \lambda.$$

Claim 76 (previously presented): A light coupling element as claimed in claim 24, including elevations (7) between the equidistantly parallel indentations ( $5_1$ ,  $5_2$ ) in top view being rhomboid, rhombus, rectangular or square.

Claims 77-78 (canceled).

Claim 79 (previously presented): A light coupling element as claimed in claim 24, on an optical analysis platform for substance analyses.

Claim 80 (previously presented): A light coupling element as claimed in claim 25, on an optical analysis platform for substance analyses.

Claim 81 (previously presented): A light coupling element as claimed in claim 24 in combination with a telecommunication data transmission apparatus.

Claim 82 (previously presented): A light coupling element as claimed in claim 25 in combination with a telecommunication data transmission apparatus.

Claims 83-84 (canceled).